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09/826,383	04/04/2001	Shigeyoshi Yoshida	0694-143	2904

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463 FIRST STREET
SUITE 5A
HOBOKEN, NJ 07030-1859

EXAMINER

NGUYEN, KHIEM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 01/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,383

Applicant(s)

YOSHIDA ET AL.

Examiner

Khiem D. Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-17,19-30,32-37 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) 22-28,32-34 and 39-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-17,19-21,29,30,35-37,43 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 3rd, 2005 has been entered. A new rejection is made as set forth in this Office Action. Claims (1, 3-5, 7-17, 19-21, 29-30, 35-37 and 43-44) are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5, 7-17, 19-21, 29-30, 35-37, 43, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inomata (U.S. Patent 6,069,820).

In re claim 1, **Inomata** discloses a semiconductor bare chip having an integrated circuit formed on front surface thereof and a magnetic loss film formed on the back surface of the semiconductor bare chip wherein the magnetic loss film is a granular magnetic thin film (col. 14, lines 29-39) and is composed of M-X-Y where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one

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of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

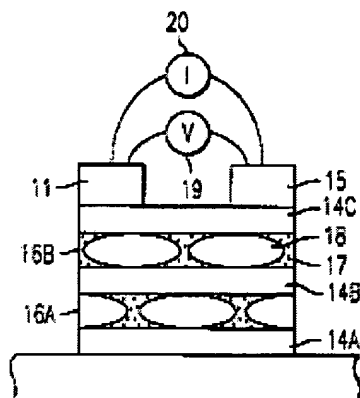


FIG. 6

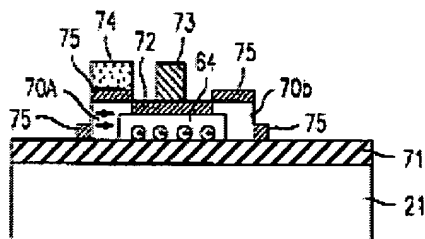


FIG. 32

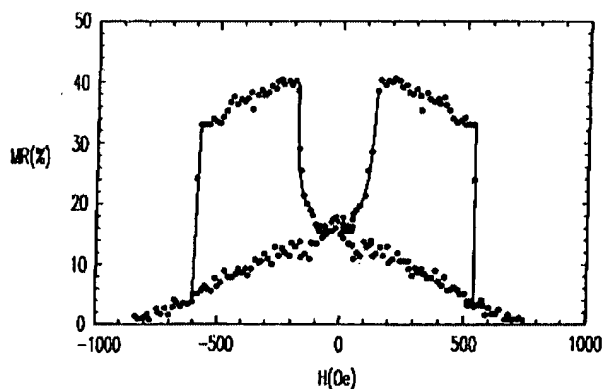


FIG. 34

Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art

conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 3, **Inomata** discloses that the granular magnetic thin film is a sputtered film formed by a sputtering method (col. 11, lines 40-48).

In re claim 4, **Inomata** discloses that the granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method (col. 11, lines 40-48).

In re claim 5, **Inomata** discloses a semiconductor wafer having an integrated circuit formed on front surface thereof and, and wherein a magnetic loss film is formed on back surface of the semiconductor wafer, and wherein the magnetic loss film is a granular magnetic thin film (col. 14, lines 29-39) and is composed of M-X-Y where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 7, **Inomata** discloses that the granular magnetic thin film is a sputtered film formed by a sputtering method (col. 11, lines 40-48).

In re claim 8, **Inomata** discloses that the granular magnetic thin film is a vapor-deposited film formed by a vapor deposition method (col. 11, lines 40-48).

In re claim 9, **Inomata** discloses a semiconductor substrate having a semiconductor wafer and a magnetic loss member formed in a part thereof on the semiconductor wafer, wherein the magnetic loss member is formed in a prescribed pattern on the back surface of the semiconductor substrate, the front surface of the semiconductor substrate having an integrated circuit thereon, the magnetic loss member and semiconductor substrate region on the surface are uniformly covered with an insulating film, and the magnetic loss member has a granular structure (col. 14, lines 29-39) and is composed of M-X-Y where M is either any one of, or a mixture of, Fe, Co, and Ni, X is either an element other than M and Y, or a mixture thereof, Y is any one of, or a

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mixture of, F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

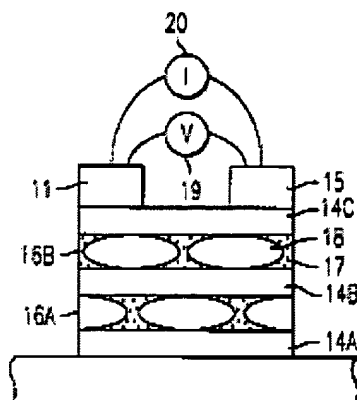


FIG. 6

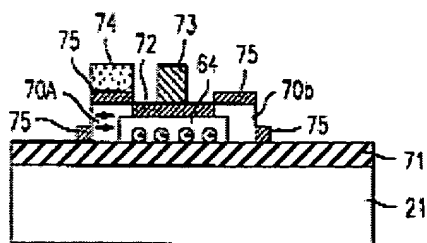


FIG. 32

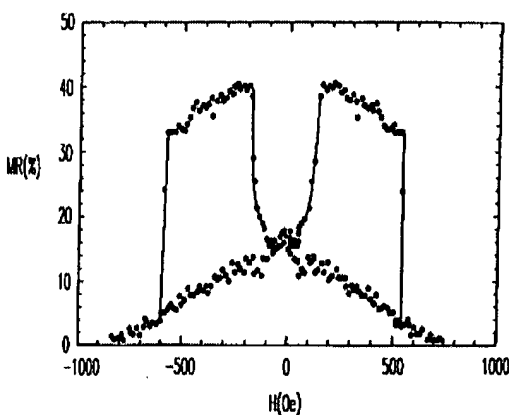


FIG. 34

Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum

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or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 10, **Inomata** discloses a semiconductor substrate having a magnetic loss member formed over substantially the entire surface of the semiconductor substrate including the back surface wherein the magnetic loss member has a granular structure (col. 14, lines 29-39), the magnetic loss member is composed of M-X-Y where M is either any one of, or a mixture of, Fe, Co, and Ni, X is one or more elements other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

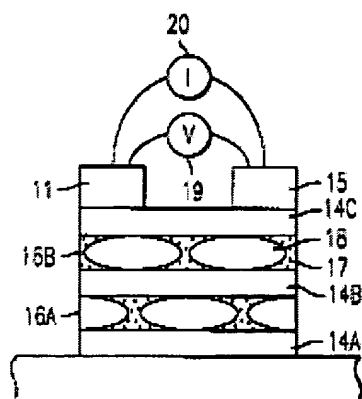


FIG. 6

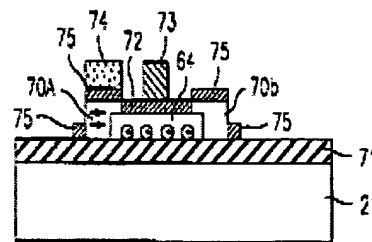


FIG. 32

Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 11, **Inomata** discloses that the prescribed pattern is formed by the magnetic loss member and is a striped pattern (col. 13, lines 4-20).

In re claim 12, **Inomata** discloses that the prescribed pattern is formed by the magnetic loss member and is a lattice pattern (col. 13, lines 4-20).

In re claim 13, **Inomata** discloses that the prescribed pattern is formed by the magnetic loss member and is an island pattern (col. 13, lines 4-20).

In re claim 14, **Inomata** discloses that the insulating film comprises at least one material selected from a group consisting of silicon oxide, silicon nitride, and silicon nitride oxide (col. 14, lines 29-39).

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In re claim 15, **Inomata** discloses a semiconductor substrate having a plurality of magnetic loss members formed in a part thereof, wherein the magnetic loss members are formed in a prescribed pattern, each of the magnetic loss members being formed on the back surface of a semiconductor device and being formed on an inside surface of each semiconductor device region which is separated by dividing the semiconductor substrate, and has a granular structure (col. 14, lines 29-39) and is also composed of M-X-Y where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

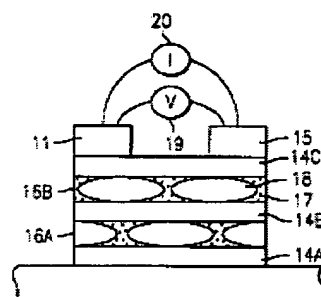


FIG. 6

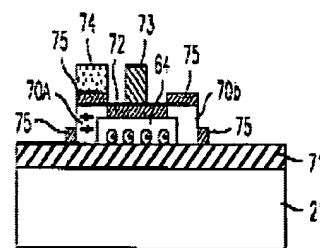


FIG. 32

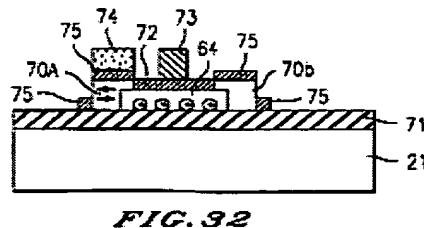
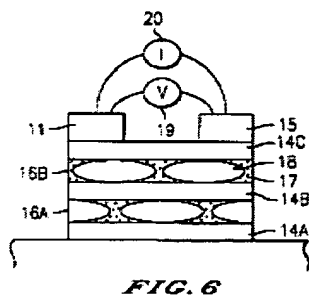
Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification

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contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 16, **Inomata** discloses a semiconductor substrate formed by joining a first semiconductor substrate member and a second semiconductor substrate member together, and having a magnetic loss member formed in a part thereof, wherein at least one semiconductor substrate member of the first semiconductor substrate member and the second semiconductor substrate member is provided with at least one trench, and which is formed on the surface thereof that is joined together; and the magnetic loss member is embedded inside the at least one trench, and on the back surface of a semiconductor device, and has a granular structure (col. 14, lines 29-39) and is composed of M-X-Y where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).



Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 17, **Inomata** discloses that the trench comprises a plurality of trench portions formed in a prescribed pattern, each of the trench portions being formed on an inside surface of each semiconductor device region which is separated by dividing the semiconductor substrate (FIG. 6).

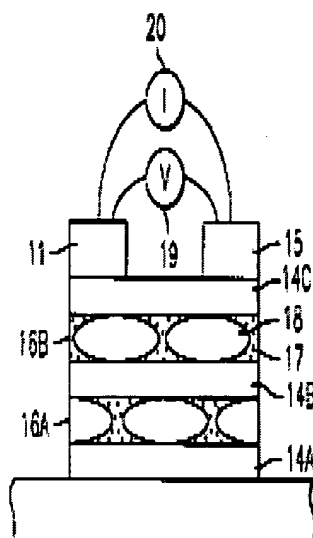
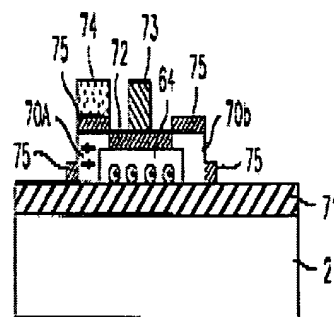
In re claim 19, **Inomata** discloses that the semiconductor wafer consists of silicon (col. 5, lines 46-50).

In re claim 20, **Inomata** discloses that the semiconductor wafer consists of GaAs (col. 20, lines 14-31).

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In re claim 21, **Inomata** discloses that each one of the plurality of the semiconductor devices is repeatedly formed in a prescribed pattern on the semiconductor substrate, comprises at least one unit region in which the magnetic loss member is formed (FIG. 6).

In re claim 29, **Inomata** discloses an electromagnetic noise suppression body comprising an electrically conductive soft magnetic thin film wherein the soft magnetic thin film is also finely divided into configuring units sufficiently small relative to wavelength of electromagnetic noise so that conduction of DC current between those configuring units is interrupted (col. 14, lines 29-39) and the soft magnetic thin film is also composed of a composition of M-X-Y where M is at least one of Fe, Co, and Ni, X is one or more elements other than M and Y, and Y is at least one of F, N, and O, and the having a granular sucture, and the M component is present in a concentration range exhibiting a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

**FIG. 6****FIG. 32**

Inomata does not explicitly disclose that the M component is present in a concentration range exhibiting a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 30, **Inomata** discloses that each of configuring units has an aspect ratio of 10 or greater (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

In re claim 35, **Inomata** discloses an electromagnetic noise suppression body for suppressing conductive electromagnetic noise, comprising an electrically conductive soft magnetic thin film attached in vicinity above a microstrip line or signal transmission line similar thereto, wherein the electrically conductive soft magnetic thin film is of a shape having a width that is substantially equivalent to or narrower than line width of the microstrip line or signal transmission line similar thereto, and has a granular structure (col. 14, lines 29-39) and is also composed of a composition of M-X-Y where M is at

least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

Inomata does not explicitly disclose that the M component is present in an amount effective for the film to exhibit a saturation magnetization of 35 to 80% relative to the saturation magnetization of a bulk metal body consisting exclusively of the M component as recited in the Applicants' claimed invention.

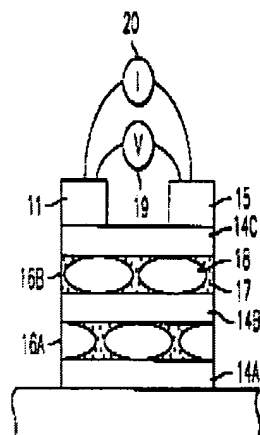
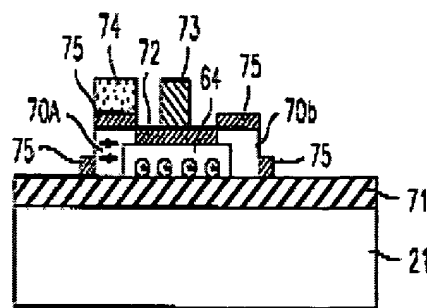
However, there is no evidence indicating that the saturation magnetization percentage is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 36, **Inomata** discloses that the electromagnetic noise suppression body is attached so that the axis of hard magnetization thereof is substantially parallel to the width direction of the microstrip line or signal transmission line similar thereto (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

In re claim 37, **Inomata** discloses that the soft magnetic thin film of a shape having a width that is substantially equivalent to or narrower than line width of the

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microstrip line or analogous signal transmission line has an aspect ratio in width direction of 10 or greater (col. 10, lines 50-63 and FIGS. 6, 32, and 34).

**FIG. 6****FIG. 32**

In re claim 43, **Inomata** discloses that the first semiconductor substrate member and the second semiconductor substrate member consist essentially of silicon (col. 5, lines 46-50).

In re claim 44, **Inomata** discloses that the first semiconductor substrate member and the second semiconductor substrate member consist essentially of GaAs (col. 20, lines 14-31).

Response to Applicants' Amendment and Arguments

Applicants contend that the reference Inomata (U.S. Patent 6,069,820) herein known as Inomata does not describe the granular material as a magnetic loss layer as alleged in the rejection.

In response to Applicants' contention that Inomata does not describe the granular material as a magnetic loss layer as alleged in the rejection, Examiner respectfully disagrees. Applicants are directed to (col. 10, lines 50-63 and FIGS. 6, 32, and 34) where

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Inomata discloses that the magnetic loss film is a granular magnetic thin film (col. 14, lines 29-39) and is composed of M-X-Y where M is at least one of Fe, Co, and Ni, X is at least one element other than M and Y, and Y is at least one of F, N, and O, and the M component is present in an amount effective for the film to exhibit a saturation magnetization (col. 10, lines 50-63 and FIGS. 6, 32, and 34). Thus, Inomata does described that the granular material as a magnetic loss layer and is composed of M-X-Y, wherein M is at least one of Fe, Co, X is at least one element other than M and Y, and Y is at least O (col. 10, lines 50-63).

For this reason, Examiner holds the rejection proper.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.

December 31, 2005



W. DAVID COLEMAN
PRIMARY EXAMINER